



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/601,508	06/23/2003	Piotr Strzyzewski	03345-P0041A	9726
24126	7590	08/24/2004	EXAMINER	
ST. ONGE STEWARD JOHNSTON & REENS, LLC 986 BEDFORD STREET STAMFORD, CT 06905-5619			HARRISON, MONICA D	
			ART UNIT	PAPER NUMBER
			2829	

DATE MAILED: 08/24/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

48

Office Action Summary	Application No. 10/601,508	Applicant(s) STRYZEWSKI, PIOTR	
	Examiner Monica D. Harrison	Art Unit 2829	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-14 is/are pending in the application.
4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1-14 is/are rejected.
- 7) ☐ Claim(s) ____ is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 23 June 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. ____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|--|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. ____ |
| 2) <input type="checkbox"/> Notice of Draftperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date ____ | 6) <input type="checkbox"/> Other: ____ |

DETAILED ACTION

Priority

1. Receipt is acknowledged of papers submitted under 35 U.S.C. 119(a)-(d), which papers have been placed of record in the file.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

Claims 1 and 3 are rejected under 35 U.S.C. 102(e) as being anticipated by Carlson et al (6,376,387 B2).

2. Regarding claim 1, Carlson et al discloses a method for treating semiconductor substrates, in which the in particular uncoated semiconductor substrates are fed through a loading lock (Figure 1, references 14A and 14B) to a treatment arrangement, which loading lock adjoins a transfer chamber (Figure 1, reference 18) from which, in turn, a multiplicity of treatment chambers can be loaded with the semiconductor substrates which are to be treated (Figure 1, references 20A, 20B, and 20C), for which purpose, first of all, the transfer chamber and the treatment chamber are evacuated (column 4, lines 24-27), and then a connecting door between transfer chamber and treatment chamber is opened (Figure 1, reference 40), in which method a low-pressure or atmospheric-pressure process is operated in at least one of the treatment chambers (Figure 2, reference 54), and the transfer chamber is flooded with an inert gas before

Art Unit: 2829

the connecting door associated with this treatment chamber is opened, both the treatment chamber and the transfer chamber, before the connecting door is opened, being purged, in each case at a predefined pressure (column 4, lines 24-67 thru column 5, lines 1-4), with a respective purge gas which remains constant, in such a manner that, when the connecting door is opened, a gas stream flows from the transfer chamber into the treatment chamber and is maintained during loading of the treatment chamber through the fact that the pressure in the transfer chamber is slightly higher than the pressure in the treatment chamber (column 5, lines 5-18).

3. Regarding claim 3, Carlson et al discloses that the low-pressure atmospheric-pressure treatment chamber has a heated process chamber which remains heated, and in particular is kept at process temperature, during the loading or unloading (column 5, lines 1-4).

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. Claims 2 is rejected under 35 U.S.C. 103(a) as being unpatentable over Carlson et al (6,376,387 B2).

Carlson et al discloses all above claimed subject matter pertaining to independent claim 1 except the pressure difference is regulated by varying the evacuation power (claim 2).

Carlson does not explicitly demonstrate varying evacuation power but, in order for the pressure valves to be controlled (Figure 2, references 54 and 56), there must be some kind of

Art Unit: 2829

vacuum within the system. The vacuum controls the valves and pressure going in and out of the system.

It would have been obvious at the time the invention was made to one with ordinary skill in the art to modify Carlson et al by adding the evacuation power (vacuum) since the vacuum is readily available in the art and the vacuum controls the valves and pressure going in and out of the system MPEP 2144.

5. Claims 4 and 5 are rejected under 35 U.S.C. 103(a) as being unpatentable over Carlson et al (6,376,387 B2) in view of Speakman (6,503,831).

Carlson et al discloses all above claimed subject matter pertaining to independent claim 1 except coating of the substrates (claim 4), MOCVD process (claim 5).

Speakman et al discloses coating of the substrates (column 3, lines 22-24), MOCVD process (column 44, line 57).

Since Carlson et al and Speakman et al are both from the same field of endeavor, the purpose disclosed by Speakman et al would have been recognized in the pertinent art of Carlson et al.

It would have been obvious at the time the invention was made to one with ordinary skill in the art to modify Carlson et al with the teachings of Speakman et al for the purpose of forming an electronic device using the technique of drop on demand printing.

6. Claims 6 is rejected under 35 U.S.C. 103(a) as being unpatentable over Carlson et al (6,376,387 B2).

Carlson et al discloses a method for treating semiconductor substrates, in which the in particular uncoated semiconductor substrates are fed through a loading lock (Figure 1, references

Art Unit: 2829

14A and 14B) to a treatment arrangement, which loading lock adjoins a transfer chamber (Figure 1, reference 18) from which one or more treatment chambers can be loaded with the semiconductor substrates which are to be treated (Figure 1, references 20A, 20B, and 20C), for which purpose a connecting door between transfer chamber and treatment chamber is opened (Figure 1, reference 40), characterized in that a low-pressure or atmospheric-pressure process is operated in at least one of the treatment chambers (Figure 2, reference 54), and the transfer chamber is flooded with an inert gas before the connecting door associated with this treatment chamber is opened. However, Carlson et al does not explicitly disclose the pressure difference between the transfer chamber and the treatment chamber being maintained through the fact that, with the gas flows into the transfer chamber, on the one hand, and into the treatment except the pressure in transfer chamber and/or treatment chamber is controlled by varying the evacuation power.

Since Carlson et al does not explicitly demonstrate varying evacuation power, in order for the pressure valves to be controlled (Figure 2, references 54 and 56), there must be some kind of vacuum within the system. The vacuum controls the valves and pressure going in and out of the system.

It would have been obvious at the time the invention was made to one with ordinary skill in the art to modify Carlson et al by adding the evacuation power (vacuum) since the vacuum is readily available in the art and the vacuum controls the valves and pressure going in and out of the system MPEP 2144.

6. Claims 7-14 are rejected under 35 U.S.C. 103(a) as being unpatentable over Carlson et al (6,376,387 B2) in view of Speakman (6,503,831)

Carlson et al discloses all claimed subject matter pertaining to independent claim 1 however, Carlson et al does not stable pressure (claim 7), pressure difference (claims 8 and 10), electronic control unit (claim 9), MOCVD process (claim 11), control element (claim12), evacuation means (claim 13), and purge gas outlet (claim 14).

Speakman discloses stable pressure (column 6, lines 7-8), pressure difference (column 6, lines 7-8) electronic control unit (Figure 8, reference 854), and MOCVD process (column 44, line 57).

Since Carlson et al and Speakman et al are both from the same field of endeavor, the purpose disclosed by Speakman et al would have been recognized in the pertinent art of Carlson et al.

It would have been obvious at the time the invention was made to one with ordinary skill in the art to modify Carlson et al with the teachings of Speakman et al for the purpose of forming an electronic device using the technique of drop on demand printing.

7. Regarding claim 12, Carlson et al discloses a control element for setting respective purge gas flows into both the treatment chamber and the transfer chamber and for regulating the pressures in the treatment chamber and the transfer chamber (Figure 2, reference 80).

8. Regarding claim 13, Carlson et al discloses an evacuation means associated with in each case one treatment chamber and an evacuation means associated with the transfer chamber, which evacuation means are controlled by the control element (Figure 2, reference 80).

Art Unit: 2829

9. Regarding claim 13, Carlson et al the purge gas outlet is closer to the connecting door than the gas outlet line associated with the evacuation means (Figure 2, referenced 68 and 70).

Conclusion

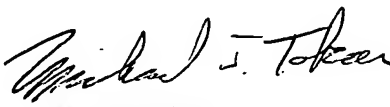
Any inquiry concerning this communication or earlier communications from the examiner should be directed to Monica D. Harrison whose telephone number is 571-272-1959. The examiner can normally be reached on M-F 7:00am-3:30pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Kammie Cuneo can be reached on 571-272-1957. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Monica D. Harrison
AU 2829

mdh
August 18, 2004


Michael Tokar
Supervisory Patent Examiner
Technology Center 2800